



Goddard Procedural Requirements (GPR)

DIRECTIVE NO. GPR 8500.4A
EFFECTIVE DATE: January 10, 2005
EXPIRATION DATE: June 29, 2009

APPROVED BY Signature: *Original Signed by*
NAME: Edward J. Weiler
TITLE: Director

COMPLIANCE IS MANDATORY

Responsible Office: 250/Safety and Environmental (S&E) Division

Title: Air Quality Management Program

PREFACE

P.1 PURPOSE

The purpose of this directive is to define the responsibilities and controls for Goddard Space Flight Center (GSFC) operations that generate airborne contaminants to the atmosphere. This GPR outlines the responsible parties and procedures to be followed when planning new potential sources of airborne contaminants, modifying existing sources, operating permitted and regulated sources, and maintaining GSFC fleet vehicles.

P.2 APPLICABILITY

This directive applies to all GSFC personnel, facilities, and activities, including all permanent and temporary activities at Greenbelt and the Wallops Flight Facility (WFF). It also applies to all GSFC tenant organizations, contractors, grantees, clubs and other persons operating under the auspices of GSFC or on GSFC property as required by law and as directed by contractual, grant, and agreement documents.

Managers of locations remote from Greenbelt and WFF shall ensure that an adequate air quality management system is established and documented in organization-level directives or controlled documents to achieve compliance with regulatory, Agency, and GSFC requirements.

P.3 AUTHORITY

[NPD 8500.1](#), NASA Environmental Management

P.4 REFERENCES

- a. Clean Air Act (CAA), 42 U.S.C. 1857-1857I
- b. [Code of Federal Regulations \(CFR\) Chapter 40, Parts 50 to 99](#) - Air Programs
- c. [Executive Order \(EO\) 12843](#), Procurement Requirements and Policies for Federal Agencies for Ozone-Depleting Substances, April 21, 1993
- d. [GPD 8500.1, Environmental Program Management](#)
- e. GSFC Title V, Part 70 Operating Permit

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<http://gdms.gsfc.nasa.gov> TO VERIFY THAT THIS IS THE CORRECT VERSION PRIOR TO USE.

P.5 CANCELLATION

GPG 8500.4, Air Quality Management Program

P.6 SAFETY

None

P.7 TRAINING

All personnel who operate permitted sources of airborne contaminants shall be trained and certified as specified in the permit. For example, a permit for boiler operators may require the operators to receive training in combustion optimization and nitrous oxide emissions.

Because many refrigerants are Ozone Depleting Substances (ODS) (see P.10.k), personnel who maintain, service, repair, or dispose of refrigerant-containing equipment shall have special training and certifications. Persons not properly certified in accordance with Federal and state regulations shall not maintain, service, repair, or dispose of refrigerant-containing equipment.

P.8 RECORDS

Record Title	Record Custodian	Retention
Quarterly and/or Semi-Annual Fuel Usage Reports	Safety and Environmental (S&E) Division	Handle as permanent pending retention approval
Annual Air Emissions Report	S&E	Handle as permanent pending retention approval
Title V or State Operating Permit Annual Certification of Compliance	S&E	Handle as permanent pending retention approval
ODS certifications for Civil Service personnel	User/Managing Organization. Supervisors are responsible for training records.	<u>40 CFR Part 82</u> . 5 years beyond employment
ODS certifications for Government-owned equipment	User/Managing Organization	<u>40 CFR Part 82</u> . 5 years beyond employment
Emissions monitoring records	User/Managing Organization	Handle as permanent pending retention approval
Material use and operation records	User/Managing Organization	Handle as permanent pending retention approval
Excess emissions and deviations records	User/Managing Organization	Handle as permanent pending retention approval

Record Title	Record Custodian	Retention
Fleet vehicle emission inspections	Logistics Management Division	Until expired
Any other records required by Permit	User/Managing Organization	Handle as permanent pending retention approval
Correspondence related to regulatory inspections	S&E	Handle as permanent pending retention approval

P.9 METRICS

S&E shall monitor, assess, and report on the metrics specified in applicable environmental regulations, permits and Executive Orders, at the required intervals (usually annually). S&E will continually assess available metrics for process improvement.

P.10 DEFINITIONS

- a. **Airborne Contaminants (Air Pollutant)** – Any material that when emitted causes or tends to cause degradation of air quality. Such materials include, but are not limited to: smoke, dust, soot, grime, carbon, fumes, gases, mists, odors, particulate matter, solvents, fuels, paints, or any combination thereof.
- b. **Air Pollution Control Equipment** – Any equipment that when operated has the primary purpose of significantly reducing the emissions of air pollutants or the effects of such emissions.
- c. **Conformity** - Section 176(c) of the CAA prohibits any Federal agency from engaging in, supporting, providing financial assistance for, licensing, permitting, or approving any activity that does not conform to an applicable State Implementation Plan (SIP) or Federal Implementation Plan (FIP). The Environmental Protection Agency (EPA) outlines criteria and procedures for determining conformity. A Federal agency must determine whether a Federal action conforms to the SIP or FIP before implementing it. The general conformity rule applies only to Federal actions in areas designated as non-attainment or maintenance.
- d. **Criteria Air Pollutants** – A pollutant that the EPA Administrator has determined will cause or contribute to air pollution, which may reasonably be anticipated to endanger public health and welfare and for which air quality criteria have been established. Criteria pollutants include sulfur dioxide, nitrogen oxides, ozone, carbon monoxide, lead, and particulate matter.
- e. **Environmental Emergency** – An event that requires immediate action to control, minimize, or negate damage to people or the environment and/or requires reporting to outside parties within 24 hours of occurrence. An example of an environmental emergency is a non-permitted release at the facility.
- f. **Hazardous Air Pollutants or Air Toxics** – An air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a present or potential hazard to human health.

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Toxic air contaminants consist of those substances identified by state regulations and those substances listed as hazardous air pollutants under Subsection (b) of Section 112 of the CAA.

g. **Maintenance Area** - Any geographic region of the United States previously designated non-attainment pursuant to the CAA Amendments of 1990 and subsequently redesignated to attainment.

h. **Malfunction** – Sudden and unavoidable failure of an installation to operate in a normal and usual manner. Failures that are caused entirely or in part by inadequate design, poor maintenance, careless operation, preventable upset conditions, or preventable equipment breakdown may not be considered malfunctions.

i. **National Emissions Standard for Hazardous Air Pollutants (NESHAPs)** – Standards set under CAA by EPA for regulating and reducing emissions of hazardous air pollutants such as asbestos, benzene, beryllium, mercury, and radionuclides. Other NESHAPs for industry categories may apply to GSFC operations, such as woodworking, coating operations, furniture repair, and aerospace manufacturing and rework.

j. **Non-Attainment Area** - Any geographic region of the United States in which the level of the criteria air pollutant is higher than the level allowed by Federal standards.

k. **Ozone Depleting Substance (ODS)** – Any substance containing chlorofluorocarbons, hydrochlorofluorocarbons, halons, methyl bromide, carbon tetrachloride, and methyl chloroform and/or having characteristics of depleting tri-atomic oxygen.

l. **Permitted Source** – any unit or process that requires a permit due to their release of airborne contaminants.

m. **Source** – Any item that emits or has the potential to emit airborne contaminants.

n. **State Implementation Plan** – Air quality standards are achieved, maintained, and enforced by the states through State Implementation Plans (SIPs). SIPs specify emission limits and compliance schedules for pollution sources and are tailored to the needs of the different air quality control regions. A region not meeting air standards is said to be a “non-attainment area,” and regulations for the area will generally place stricter requirements on sources of air pollution. If the state fails to submit a SIP to EPA for approval, or if EPA disapproves the proposed SIP, EPA is required to issue a Federal Implementation Plan (FIP) for the area.

o. **Volatile Organic Compound (VOC)** - Any organic compound which participates in atmospheric photochemical reactions, excluding those compounds which have been determined to have negligible photochemical reactivity by EPA and which are listed in 40 CFR §51.100(s).

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PROCEDURES

In this document, a requirement is identified by "shall," a good practice by "should," permission by "may" or "can," expectation by "will," and descriptive material by "is."

1. RESPONSIBILITIES

The following are the roles and responsibilities for Air Quality Program Management.

1.1 The Center Director maintains an Air Quality Management Program to ensure compliance with applicable regulations and GPD 8500.1.

1.2 Directors of shall:

- a. Ensure that directorate operations are performed in accordance with this GPR and applicable permits and regulations;
- b. Ensure control of environmental program documents and records associated with directorate operations; and
- c. Provide resources to accomplish these responsibilities.

1.3 S&E shall:

- a. Manage and maintain the GSFC Title V, Part 70 Operating Permits;
- b. Serve as the point of contact for regulatory agency inspections and environmental audits;
- c. Provide support and oversight to ensure operations are conducted in compliance with all applicable regulations, requirements, and permit conditions;
- d. Provide advice to program and project managers during planning and design phases;
- e. Prepare and submit permit applications;
- f. Prepare and submit required reports for permits; and
- g. Issue and maintain procedures for Asbestos Management.

1.4 Facility Management Division (FMD) shall:

- a. Ensure that a determination of conformity is accomplished for any facilities-related Federal action that occurs in a non-attainment area or maintenance area;
- b. Review air emissions data reported for their operations, as required; and
- c. Maintain the ability and provide services to the Center to ensure that excessed refrigerators and Heating, Ventilation, and Air Conditioning (HVAC) equipment containing ODS coolants are properly drained and prepared for disposal.

1.5 Logistics Management Division (LMD) shall:

- a. Ensure fleet vehicles comply with state emissions testing requirements;
- b. Ensure that LMD vehicle maintenance activities, equipment, and personnel comply with ODS management regulations and requirements;

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- c. Maintain excess equipment disposal procedures to ensure proper removal of hazardous substances, such as ODSs, prior to disposal; and
- d. Coordinate with FMD for removal of ODS coolants from inoperable excess refrigerators and HVAC equipment.

1.6 GSFC Supervisors shall:

- a. Ensure that employees conduct operations in compliance with this GPR and applicable regulations, requirements, and permits;
- b. Inform S&E when planning new potential sources, planning modifications to existing sources, and of any existing sources of airborne contaminants that have not been previously coordinated with the S&E;
- c. Ensure that sufficient resources are available to achieve compliance;
- d. Provide a fund source for application, permit and emission fees and fines to S&E when required;
- e. Ensure that employees receive training required to operate sources of airborne contamination;
- f. Ensure that employee and equipment certifications are kept current, where required;
- g. Ensure records and monitoring/test results are maintained as required;
- h. Provide required reports and data to S&E on a timely basis;
- i. Coordinate with S&E for consultation and support;
- j. Ensure immediate reporting of excess emissions and deviations from permit requirements; and
- k. Ensure immediate reporting of any non-permitted release at the facility to the Emergency Console. At Greenbelt, dial 911 from Center telephones, or (301) 286-8080 from other telephones. At WFF, dial 911 from facility telephones, or (757) 824-1333 from other telephones. The Emergency Console shall immediately contact the appropriate response organizations, including S&E.

1.7 Operators of GSFC Air Emission Sources shall:

- a. Conduct operations in compliance with all applicable regulations, requirements, and permit conditions;
- b. Provide access and points of contact to S&E for inspections, assessments, and audits;
- c. Immediately inform S&E of the arrival of representatives/inspection teams from any regulatory agencies;
- d. Implement corrective actions as required;
- e. Attend training as required by permits, regulations and operating procedures;
- f. Maintain certifications and operating records;
- g. Submit documents/records/data to S&E as required for permit applications, compliance, and third-party data requests;
- h. Immediately report all failures to comply with permit conditions to S&E; and
- i. Immediately report all malfunctions of air emissions control equipment to S&E.

1.8 Employees and Other Individuals shall immediately report any non-permitted release at the facility to the Emergency Console. At Greenbelt, dial 911 from Center telephones, or (301) 286-8080 from other telephones. At WFF, dial 911 from facility telephones, or (757) 824-1333 from other telephones. The Emergency Console shall immediately contact the appropriate response organizations, including S&E.

2. PROCEDURES

2.1 Procedural Overview – Air Permits and Operational Requirements

Users of regulated air sources shall obtain appropriate permits. Permits establish operating parameters, conditions, and limitations that users shall adhere to. Specific permit requirements vary according to the air emission source, but are described in the following general categories.

- a. Physical:
 - (1) Controls to limit emissions (e.g., low nitrogen oxide burners on boilers, and filters on paint booths);
 - (2) Monitoring equipment to measure emissions and/or processing rates.
- b. Operational:
 - (1) Limits on the amounts of fuel burned or materials processed;
 - (2) Limits on the frequency or duration of operations;
 - (3) Limits on the types and amounts of product that can be used (e.g., paints, solvents);
 - (4) Required testing and monitoring of equipment.
- c. Record keeping:
 - (1) Documentation that physical and operational requirements are met;
 - (2) Identification of quantities of materials and fuels used;
 - (3) Logs of the frequency and duration of operations.
- d. Training:

Requirements include specific training, certifications, and refreshers for personnel who operate regulated equipment.
- e. Reporting and Inspections:
 - (1) Preparing and submitting monthly, quarterly, and/or semi-annual reports and certifications;
 - (2) Notifying and reporting excess emissions and deviations.

Examples of types of permitted or regulated air sources at GSFC include:

- a. boilers
- b. generators
- c. coatings operations (paint booths, curing ovens)
- d. fuel dispensing operations (gas stations)
- e. woodworking/furniture operations
- f. refrigerant (ODS) change-out operations (maintain, service, repair, or disposal)
- g. printed circuit board laboratories
- h. buffing operations
- i. plating operations
- j. vapor degreasing/metal parts washer operations (ODS/VOC)
- k. fugitive emissions (e.g., equipment leaks, outdoor spray painting)

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2.2 Obtaining an Air Emissions Permit

Users shall contact S&E for any new or modified air emissions source. Information on the source shall be provided by the user and shall include the proposed date of installation, estimated hours of operation, and materials used in the operation. S&E shall determine if an air emissions permit is required by the State and/or Federal agencies. If a permit is required, S&E shall coordinate completion and submission of the application with the appropriate agency and the user. Permit fees are the responsibility of the user organization.

2.3 ODS Requirements

Under EO 12843, GSFC shall eliminate procurement of ODSs and products containing ODSs for all but identified mission-critical activities.

No person maintaining, servicing, repairing, or disposing of appliances shall knowingly vent or release to the environment any ODSs. Only trained and certified technicians may maintain, service, repair or dispose of appliances or motor vehicle air conditioners (MVACs) containing ODSs. Only certified recovery or recycling equipment shall be used to service appliances and MVACs. Certifications for personnel and equipment shall be in accordance with Federal and state regulations, and shall be maintained current. Users and disposers of ODSs shall document procedures for proper management of ODSs.

The records for use and storage of ODSs shall be maintained by users and provided to S&E, as requested, to satisfy various reporting requirements.

2.4 Air Toxics and Compliance Reporting

Users shall maintain records of material usage for processes that produce toxic air emissions, and shall provide this information to S&E for reporting purposes. At WFF, FMD shall submit the fuel certification reports directly to the state biannually, and submit the fuel usage data to S&E annually.

Users shall maintain records to document compliance with permit requirements. Records shall be sufficient to demonstrate compliance with each term and condition of the permit, including each applicable standard, emission limitation, and work practice. S&E shall conduct periodic internal audits to confirm that data for record keeping is being collected and recorded properly. Users shall provide this information to S&E as requested.

Malfunctions of air pollution control equipment shall be reported immediately to S&E. S&E shall report excess emissions and deviations to the state as required in the permit, and coordinate contact with the regulatory agencies. For facilities where user organizations are approved to report directly to the state (such as FMD at WFF), user organizations shall provide copies of reports on excess emissions and deviations to S&E.

2.5 Risk Management Program and General Duty Clause

The Chemical Accident Prevention provisions of the CAA Section 112 (r) Risk Management Plan (RMP) require facilities that use listed toxic or flammable chemicals above certain thresholds to make hazard assessments, emergency response, and prevention program information available to the public. S&E shall provide assistance and oversight to users who are required to conduct RMP analyses.

CAA Section 112 (r) (1) declares that owners and operators of stationary sources producing, processing, handling or storing an extremely hazardous substance (or any substance listed in 40 CFR Part 68) have a *general duty* to identify hazards which may result from releases, to design and maintain a safe facility taking such steps as necessary to prevent releases, and to minimize the consequences of accidental releases which do occur.

2.6 Asbestos Management

Asbestos management procedures are the responsibility of the Management Operations Directorate and shall be maintained by S&E.

2.7 Vehicle Emissions Inspections

GSFC-owned vehicles shall comply with appropriate state emissions testing requirements.

2.8 Planning and Consideration for New or Renovated Facilities

To properly manage the Air Quality Program at GSFC, it is important to identify future sources of air emissions. When planning new programs, projects, or facilities, it is important to consider air emissions sources. The best way to control and plan for air emissions management is during the conceptual design stage. Contact S&E early in the planning process if sources of air emissions will be present.

The following shall be considered during planning:

- Equipment or process lines;
- Operating hours;
- Fuel type;
- Types or amounts of chemical used;
- Any activity that discharges materials, gases, particles, or heat to the air; and
- Direct and indirect emissions from the proposed project.

Similarly, any changes to the above shall be considered for upgrades or renovations.

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CHANGE HISTORY LOG

Revision	Effective Date	Description of Changes
Baseline	06/29/04	Initial Release
A	1/10/05	<p>As directed during the FY04 Center Rules Review, the Responsible Office modified this document to remove requirements that were no longer needed and to clearly distinguish requirements from supporting information. Administrative changes were made throughout to correct responsible organization names and codes, and to retitle Goddard Procedures and Guidelines (GPG) to Goddard Procedural Requirements (GPR). All changes were reviewed and approved by the Goddard Quality Management System Council (QMSC).</p> <ul style="list-style-type: none">• Section 2.4, changed reporting requirements from monthly to biannually.

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<http://gdms.gsfc.nasa.gov> TO VERIFY THAT THIS IS THE CORRECT VERSION PRIOR TO USE.